Multiple Section Network

Example with MLC and 3 ISR networks of different size and numbering
DSP - digital signal processor
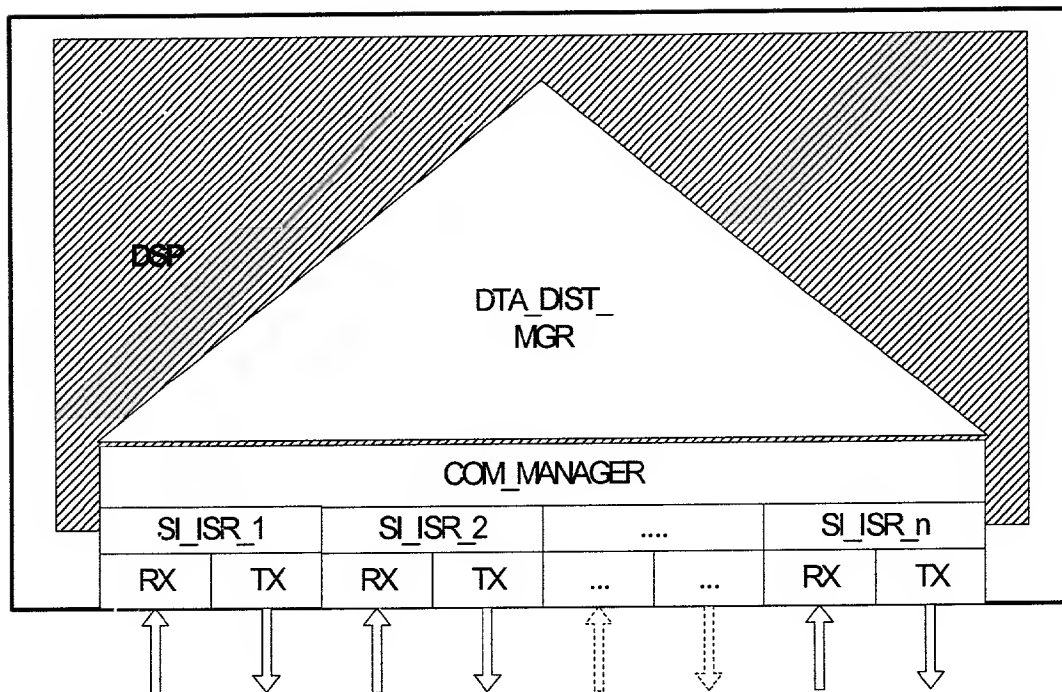SI_PLC - serial interface to process control network
(not drawn)
SI_ISR - serial interface to inter SDC network
SI_DRV - serial interface to drive network (not drawn)

Fig. 1

MLC

DSP

DTA_DIST_
MGR

COM_MANAGER

SI_ISR_1		SI_ISR_2		.....		SI_ISR_n	
RX	TX	RX	TX	...	...	RX	TX

MLC - Multi Link Controller

DSP - digital signal processor
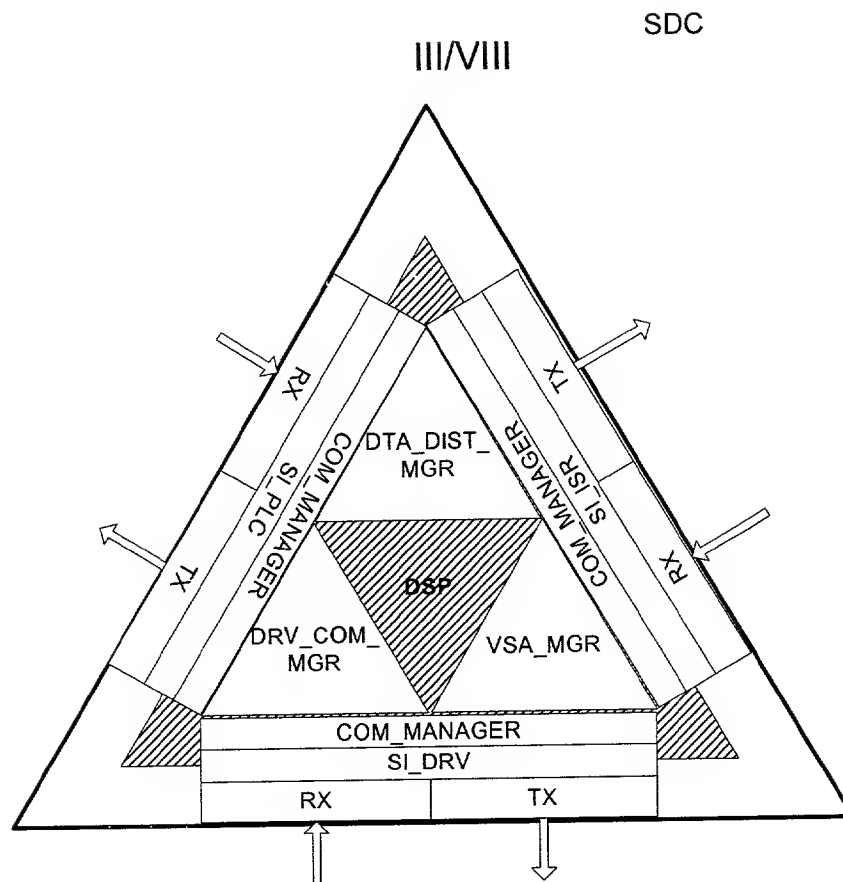DTA_DIST_MGR - module to manage the data flow between
the networks
SI_ISR_x - serial interface to inter SDC network x
COM_MANAGER - modules to manage the communication over
that interface
TX - transmit interface at communication interface
RX - receive interface at communication interface

Fig. 2

SDC

III/VIII

RX

TX

SI_PLC

COM_MANAGER

DTA_DIST_MGR

COM_MANAGER

SI_ISR

TX

RX

DSP

DRV_COM_MGR

VSA_MGR

COM_MANAGER

SI_DRV

RX   TX

SDC - SyncDrive Controller

DSP - digital signal processor
DRV_COM_MGR - module to manage the data flow from and to drive network
VSA_MGR - module to manage the virtual synchronisation axis function
DTA_DIST_MGR - module to manage the data flow between the networks
SI_PLC - serial interface to process control network
SI_ISR - serial interface to inter SDC network
SI_DRV - serial interface to drive network
COM_MANAGER - modules to manage the communication over that interface
TX - transmit interface at communication interface
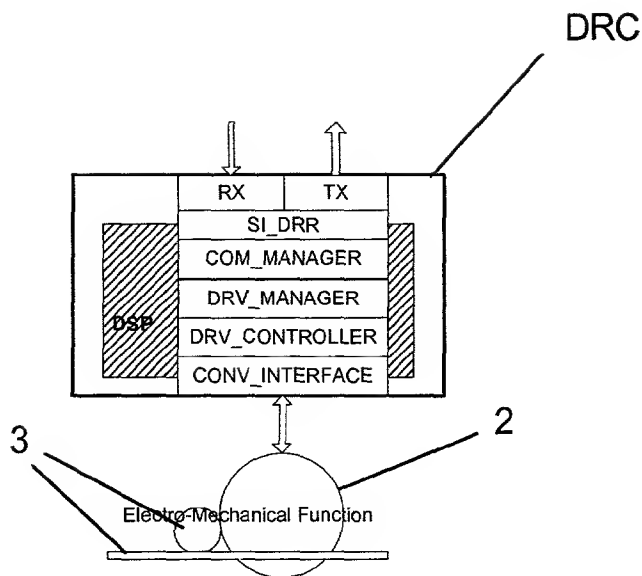RX - receive interface at communication interface

Fig. 3
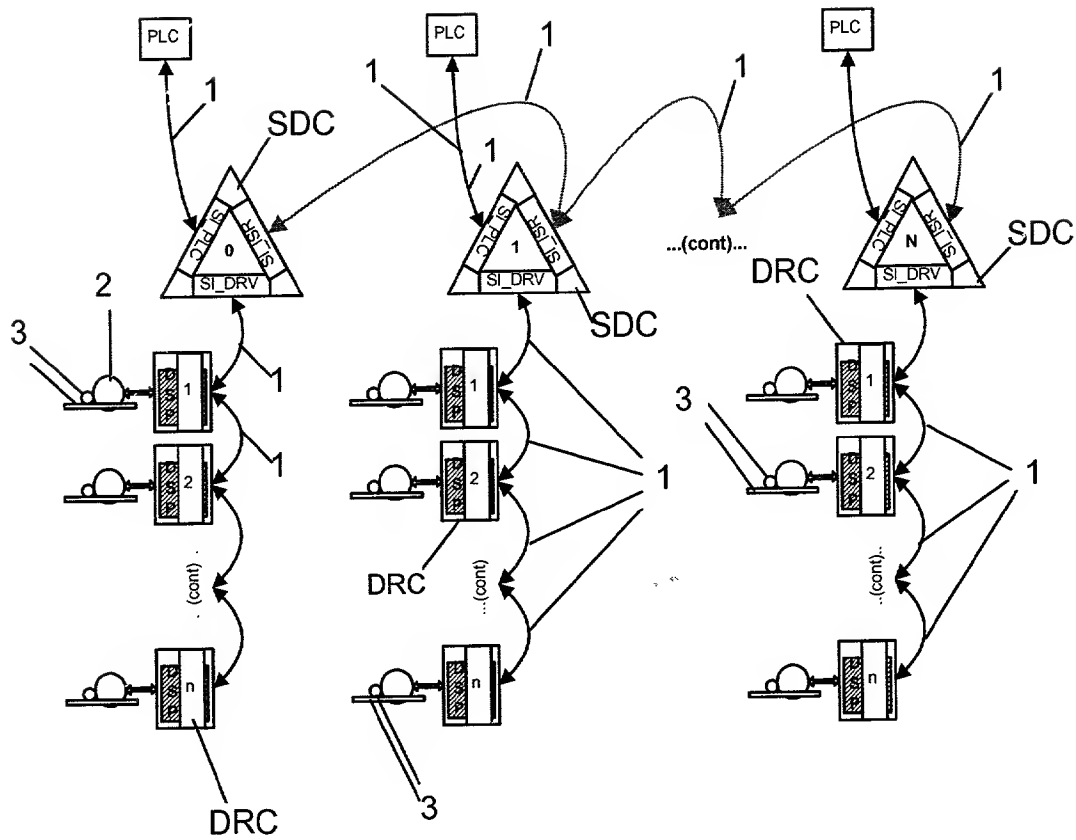
Single Section Network

DSP - digital signal processor
SI_PLC - serial interface to process control network
SI_ISR - serial interface to inter SDC network
SI_DRV - serial interface to drive network
0 - master of communication
1..N - slaves to communication

Fig. 4

DRC

RX | TX
SI_DRR
COM_MANAGER
DRV_MANAGER
DSP | DRV_CONTROLLER
CONV_INTERFACE

3

2

Electro-Mechanical Function

DRC - Drive Controller

DSP - digital signal processor
CONV_INTERFACE - module to manage the motor converter
DRV_CONTROLLER - module to control the drive (torque,
acceleration, speed, position, actual & set values, etc.)
DRV_MANAGER - module to manage the drive function
(technology, behaviour, diagnostics, etc.)
SI_DRR - serial interface to drives network
COM_MANAGER - modules to manage the communication over
that interface
TX - transmit interface at communication interface
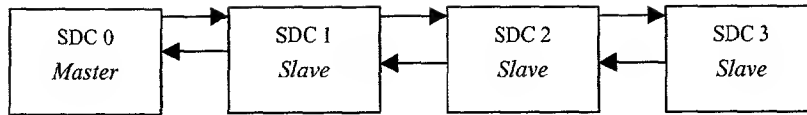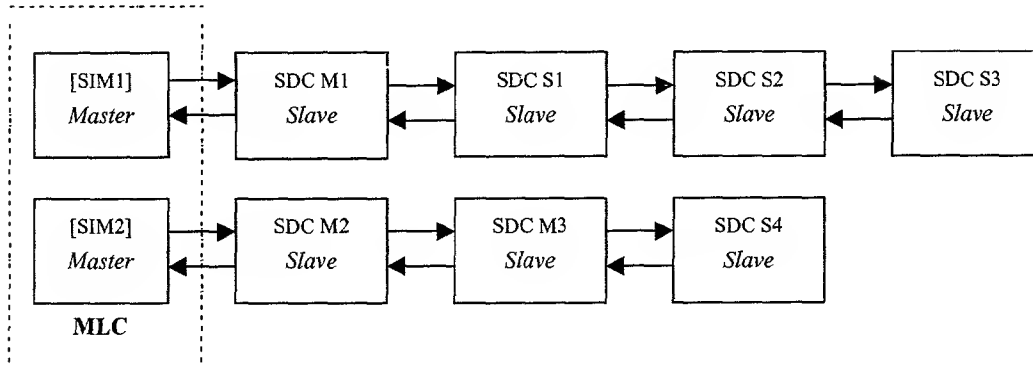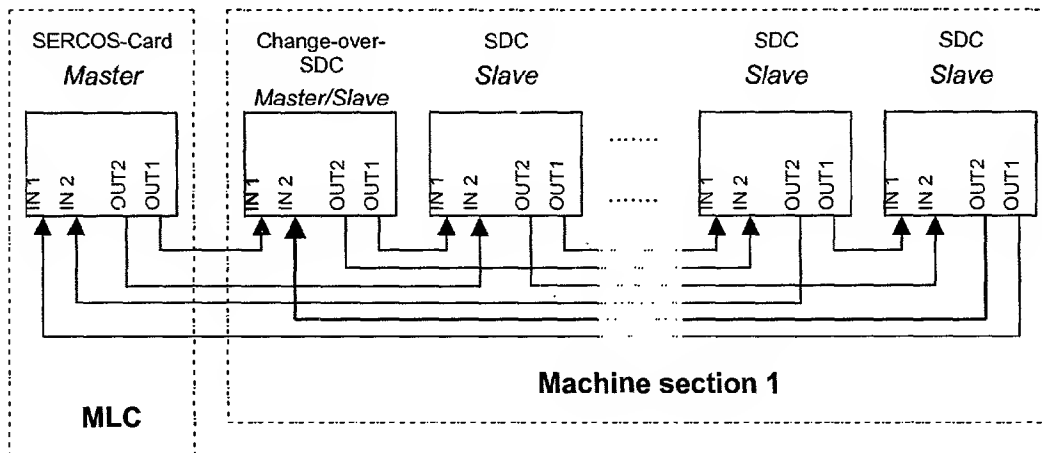RX - receive interface at communication interface

Fig. 5

| SDC 0 *Master* | SDC 1 *Slave* | SDC 2 *Slave* | SDC 3 *Slave* |

Fig. 6

| [SIM1] *Master* | SDC M1 *Slave* | SDC S1 *Slave* | SDC S2 *Slave* | SDC S3 *Slave* |
| [SIM2] *Master* | SDC M2 *Slave* | SDC M3 *Slave* | SDC S4 *Slave* |

MLC

Fig. 7

| SERCOS-Card *Master* | Change-over-SDC *Master/Slave* | SDC *Slave* | SDC *Slave* | SDC *Slave* |

IN 1 IN 2 OUT2 OUT1

Machine section 1

MLC

Fig. 8

Fig. 9

Fig. 10